IN THE CLAIMS

Please cancel Claims 10-13 and 28-38 and amend the remaining claims in accordance with the following mark-up copy:

1. (Currently Amended) An optical integrated circuit, comprising:

a substrate;

a plurality of dies; and

an etched metal template layer attached to a top of the substrate for aligning the dies by contacting the dies during placement of the dies on the template layer and the substrate, the template layer having a plurality of apertures for receiving the dies, self-alignment features for guiding the dies during placement, and having walls substantially perpendicular to a surface of the substrate for contacting sides of the dies after placement, whereby said dies are precisely located with respect to each other along a the surface of the substrate.

2. (Previously Amended) The optical integrated circuit of Claim 1, wherein the optical integrated circuit is a mirror array and the dies are mirror sub-arrays.

3. (Previously Amended) The optical integrated circuit of Claim 1, wherein the apertures are rectangular apertures for accepting the plurality of dies.

4. (Original) The optical integrated circuit of Claim 1, wherein the template layer has protrusions perpendicular to the mounting surface of the substrate for guiding the dies during placement.

5. (Original) The optical integrated circuit of Claim 4, wherein the protrusions are tapered, having a narrow end farthest from the substrate, so that the dies may self-align as the dies are guided toward the substrate.

6. (Original) The optical integrated circuit of Claim 5, wherein the template layer has rectangular apertures for accepting the plurality of dies, and wherein walls of the rectangular apertures are formed by the protrusions.

7. (Original) The optical integrated circuit of Claim 1, further comprising an adhesive layer for attaching the dies to the substrate, and wherein the adhesive layer is cut to provide vents to permit the escape of gas during mounting of the dies.

8. (Original) The optical integrated circuit of Claim 1, wherein the substrate has perforations for permitting the escape of gas during mounting of the dies.

9. (Original) The optical integrated circuit of Claim 1, wherein the template layer is bonded to the substrate by an eutectoid layer.

Claims 10-13 have been canceled.

Claims 14-26 were previously canceled.

27. (Currently Amended) An optical integrated circuit, comprising:

a substrate;

a plurality of mirror sub-arrays;

means attached to a top layer of the substrate for aligning the plurality of mirror sub-arrays during placement of the plurality of mirror sub-arrays; and

means for retaining the mirror sub-arrays in precise alignment with respect to each other after placement, and wherein the retaining means and the aligning means are provided in an etched metal layer.

Claims 28-38 have been canceled.

New Claim 39. An optical integrated circuit, comprising:

a substrate;

a plurality of dies; and

a stamped metal template layer attached to a top of the substrate for aligning the dies by contacting the dies during placement of the dies on the template layer and the substrate, the template layer having a plurality of apertures for receiving the dies, self-alignment features for guiding the dies during placement, and having walls substantially perpendicular to a surface of the substrate for contacting sides of the dies after placement, whereby said dies are precisely located with respect to each other along a the surface of the substrate.

New Claim 40. The optical integrated circuit of Claim 39, wherein the optical integrated circuit is a mirror array and the dies are mirror sub-arrays.

New Claim 41. The optical integrated circuit of Claim 39, wherein the apertures are rectangular apertures for accepting the plurality of dies.

New Claim 42. The optical integrated circuit of Claim 39, wherein the template layer has protrusions perpendicular to the mounting surface of the substrate for guiding the dies during placement.

New Claim 43. The optical integrated circuit of Claim 42, wherein the protrusions are tapered, having a narrow end farthest from

the substrate, so that the dies may self-align as the dies are guided toward the substrate.

New Claim 44. The optical integrated circuit of Claim 43, wherein the template layer has rectangular apertures for accepting the plurality of dies, and wherein walls of the rectangular apertures are formed by the protrusions.

New Claim 45. The optical integrated circuit of Claim 39, further comprising an adhesive layer for attaching the dies to the substrate, and wherein the adhesive layer is cut to provide vents to permit the escape of gas during mounting of the dies.

New Claim 46. The optical integrated circuit of Claim 39, wherein the substrate has perforations for permitting the escape of gas during mounting of the dies.

New Claim 47. The optical integrated circuit of Claim 39, wherein the template layer is bonded to the substrate by an eutectoid layer.

New Claim 48. An optical integrated circuit, comprising:

a substrate;

a plurality of dies; and

an epitaxially grown semiconductor template layer attached to a top of the substrate for aligning the dies by contacting the dies during placement of the dies on the template layer and the substrate, the template layer having a plurality of apertures for receiving the dies, self-alignment features for guiding the dies during placement, and having walls substantially perpendicular to a surface of the substrate for contacting sides of the dies after placement, whereby said dies are precisely located with respect to each other along a the surface of the substrate.

New Claim 49. The optical integrated circuit of Claim 48, wherein the optical integrated circuit is a mirror array and the dies are mirror sub-arrays.

New Claim 50. The optical integrated circuit of Claim 48, wherein the apertures are rectangular apertures for accepting the plurality of dies.

New Claim 51. The optical integrated circuit of Claim 48, wherein the template layer has protrusions perpendicular to the mounting surface of the substrate for guiding the dies during placement.

New Claim 52. The optical integrated circuit of Claim 51, wherein the protrusions are tapered, having a narrow end farthest from

the substrate, so that the dies may self-align as the dies are guided toward the substrate.

New Claim 53. The optical integrated circuit of Claim 52, wherein the template layer has rectangular apertures for accepting the plurality of dies, and wherein walls of the rectangular apertures are formed by the protrusions.

New Claim 54. The optical integrated circuit of Claim 48, further comprising an adhesive layer for attaching the dies to the substrate, and wherein the adhesive layer is cut to provide vents to permit the escape of gas during mounting of the dies.

New Claim 55. The optical integrated circuit of Claim 48, wherein the substrate has perforations for permitting the escape of gas during mounting of the dies.

New Claim 56. The optical integrated circuit of Claim 48, wherein the template layer is bonded to the substrate by an eutectoid layer.

New Claim 57. An optical integrated circuit, comprising:

a substrate;

a plurality of mirror sub-arrays;

means attached to a top layer of the substrate for aligning the plurality of mirror sub-arrays during placement of the plurality of mirror sub-arrays; and

means for retaining the mirror sub-arrays in precise alignment with respect to each other after placement, and wherein the retaining means and the aligning means are provided in a stamped metal layer.

New Claim 58. An optical integrated circuit, comprising:

a substrate;

a plurality of mirror sub-arrays;

means attached to a top layer of the substrate for aligning the plurality of mirror sub-arrays during placement of the plurality of mirror sub-arrays; and

means for retaining the mirror sub-arrays in precise alignment with respect to each other after placement, and wherein the retaining means and the aligning means are provided in an epitaxially grown semiconductor layer.